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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,988	11/16/2000	Tomo Ueno	SUGI-093	3887

7590 11/26/2002
Parkhurst & Wendel
Suite 210
1421 Prince Street
Alexandria, VA 22314-2805

EXAMINER

CHEN, BRET P

ART UNIT	PAPER NUMBER
1762	16

DATE MAILED: 11/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/646,988	Applicant(s) Tomo Ueno
Examiner Bret Chen	Art Unit 1762

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Statements

- 1) ☒ Responsive to communication(s) filed on Sep 23, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claims 1-11 are pending in this application, which is an RCE of Serial Number 09/646,988. Amended claims 1 and 10 are noted in the preliminary amendment dated 9/23/02.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. (5,403,630) or Ueno et al. (4,532,199). Matsui discloses a vapor phase growth method of introducing a silicon containing gas and ozone into a reaction vessel along with excited oxygen (col.2 lines 4-20). The silicon containing gas can be TEOS or an organic oxysilane and the excited oxygen can be formed by plasma discharge (col.3 lines 42-57). The plasma can be formed by using xenon gas and in a metastable state (col.4 lines 27-65). Ueno discloses a method of forming amorphous silicon film by using ECR (col.1 lines 51-61). The rare gas can be Kr and Xe (col.2 lines 12-14) and can be in the metastable state (col.2 lines 38-49). However, the reference fails to teach generating a plasma of the mixture.

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It is noted that the reference does teach of mixing a rare gas with oxygen and exciting the resulting gas mixture (col.4 lines 58-60 and col.3 lines 8-19, respectively). One skilled in the art would realize that the mixture could be excited to form the plasma as taught above. It would have been obvious to one skilled in the art to generate a plasma of the mixture with the expectation of obtaining similar results.

In addition, the applicant requires an inert gas component containing only at least one of a Kr gas and a Xe gas and a gas component. This limitation is met above.

The limitations of 2-11 have been addressed above.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (6,183,816). Yamazaki discloses a method of fabricating a coating using a beam-type plasma generating apparatus for generating a plasma containing a rare gas such as helium, argon, xenon, neon and krypton can be used, or mixture of these gases (col.15 lines 34-48). The rare gas can be in a metastable state (col.6 lines 4-6). However, the reference fails to teach an inert gas component containing only at least one of a Kr gas and a Xe gas and a gas component.

It is noted that the reference clearly teaches the use of a rare gas such as helium, argon, xenon, neon and krypton can be used, or mixture of these gases as noted above. One skilled in the art would realize that a combination could be utilized as clearly noted above. It would have

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been obvious to use a mixture of gases as taught above with the expectation of obtaining similar results.

The limitations of 2-11 have been addressed above.

Mori (5,310,426) has been provided for additional information.

Response to Arguments

3. Applicant's arguments filed 9/23/02 have been fully considered but they are not persuasive.

Applicant argues that the references fail to teach the advantage of the use of only Kr and/or Xe gas as the inert gas component and provide experimental results to demonstrate.

It is first noted that the factual data is not provided as a publication nor in the form of an affidavit. Hence, the data is considered merely speculative. Regardless, instant claim 1 requires an inert gas component containing only at least one of a Kr gas and a Xe gas and a gas component. It is the examiner's position that this limitation is met as indicated previously.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bret Chen whose telephone number is (703) 308-3809. The examiner can normally be reached on Monday through Thursday from 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck, can be reached on (703) 308-2333. The fax phone number for this Group is (703) 872-9310. Amendment After Finals should be faxed to (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

bc
November 24, 2002


BRET CHEN
PRIMARY EXAMINER